

REMARKS/ARGUMENTS

The Examiner is thanked for the Office Action mailed February 13, 2008. The status of the application is as follows:

- Claims 1-20 are pending, claims 1-12 have been amended, and claims 13-20 have been added;
- Claim 1 is rejected under 35 U.S.C. 112, second paragraph;
- Claims 1-3, 5-6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. (US2003/00234363 A1) in view of Kajiwara et al. (US2002/0011572 A1);
- Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Kajiwara et al. and further in view of Tsunota et al. (US 6,495,845 B1);
- Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Tsunota et al.

The rejections are discussed below.

Amendments to the Claims

Claims 1-12 have been amended herein to cure informalities. These amendments do not address any issue of patentability.

The Rejection of Claim 1 under 35 U.S.C. 112, Second Paragraph

Claim 1 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office asserts that ordinary artisans would not know what the phrase "variable shielding effectiveness," on page 2, lines 3 and 4, means or how it is defined. Applicants traverse this rejection. First, page 2, lines 3 and 4, does not state "variable shielding effectiveness." Rather, this section of the application states a "shielding of variable effectiveness." Next, ordinary artisans would know what this phrase means and how it is defined at least by the disclosure on page 2, lines 2-31. By way of non-limiting example, this section provides that the shielding of variable effectiveness is a shielding of some size with different X-radiation absorption characteristics at at least two different location, wherein shielding absorbs X-radiation such that the X-radiation shielding is not the same in all places in front of the

processing circuit, but variable. This section further states that the varying shielding effectiveness may be achieved by using a shielding composed (continuously or discretely) of different materials with different absorption coefficients for X-rays and/or varying the effective thickness of the shielding, which can be defined and measured as the geometrical thickness of the shielding in the direction of X-ray incidence. As such, ordinary artisans would know what the phrase "shielding of variable effectiveness" means and how it is defined. Accordingly, this rejection should be withdrawn.

The Rejection of Claims 1-3, 5-6, and 8-11 under 35 U.S.C. 103(a)

Claims 1-3, 5-6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Kajiwaru et al. This rejection should be withdrawn because the combination of Sekine et al. and Kajiwaru et al. does not teach or suggest all the limitations of the subject claims and, therefore, fails to establish a *prima facie* case of obvious with respect to the subject claims.

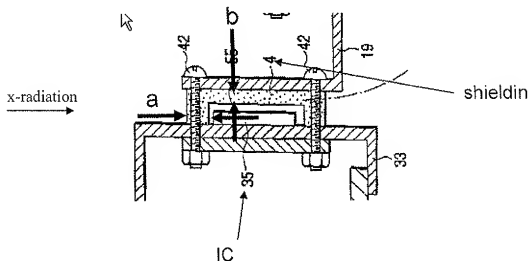
To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, (CCPA 1974). MPEP §2143.03.

Independent **claim 1** is directed towards an x-ray detector with detector elements arranged in a layer, wherein *every detector element comprises a sensor unit and a processing circuit coupled thereto*, and wherein *a shielding of variable shielding effectiveness is disposed in front of the processing circuit*. The combination of Sekine et al. and Kajiwaru et al. does not teach or suggest all of the above claim aspects.

The Office Action asserts that Sekine et al. teaches an x-ray detector with detector elements arranged in a layer, wherein every detector element comprises a sensor unit and a *processing circuit* coupled thereto, citing the wiring 38 or the terminal 36 of Sekine et al. as teaching the *processing circuit*. However, neither the wiring 38 nor the terminal 36 of Sekine et al. teaches the claimed *processing circuit*. More particularly, the wiring 38 provides electrical paths on the substrate 37, and the terminals 36 provide electrical connections between the wiring 35 of the photodiode array 33 and the wiring 38 of the substrate. Neither the wiring 38 nor the

terminal 36 are processing circuits or provide any processing. As such, the cited section of Sekine et al. does not teach or suggest the subject claim aspect.

The Office concedes that Sekine et al. does not teach or suggest *a shielding of variable shielding effectiveness is disposed in front of the processing circuit*. In an attempt to make up for this conceded deficiency, the Office asserts the Kajiware et al. teaches this aspect and that it would have been obvious to Sekine et al. with the disclosure of Kajiware to teach the subject claim aspect. In particular, the Office asserts that shielding member 4 teaches *a shielding of variable shielding effectiveness disposed in front of a processing circuit* in that the shielding member 4 shown in marked up Fig. 12 (reproduced below) has two different thicknesses ("a" and "b") and Kajiware et al. teaches that the member 4 is designed so as to have a thickness that provides sufficient shielding for the component being shielded.



However, the portion of the member with thickness "b" is not "in front of" the IC 35 as the instant application states, on page 2, lines 6-9, that the term "in front of" refers to the direction of incidence of X-rays, which means that the shielding is disposed on that side of the processing circuits which faces the X-radiation, e.g. on top of the processing units if X-radiation comes from above. From Fig. 12 above, the portion of the member with thickness "b" is clearly not "in front of" the IC 35 facing the x-radiation, but on a side which is orthogonal to the incidence of x-rays, and the Office concedes that the portion of the member with thickness "a" alone does not have a variable shielding effectiveness as recited in the subject claim.

In view of the above, even if Sekine et al. and Kajiware et al. were combinable (and applicant is not conceding this), the combination would not teach all of the claim limitations. Therefore, Sekine et al. in view of Kajiware does not make obvious the subject claim, and this rejection should be withdrawn.

Amended **claim 8**, which indirectly depends from claim 1, recites that the shielding is formed as a section that is triangular. Kajiware et al. does not teach or suggest a triangularly shaped member 4. Therefore, this rejection should be withdrawn.

The Rejection of Claims 4 and 7 under 35 U.S.C. 103(a)

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Kajiware et al. and further in view of Tsunota et al. **Claims 4 and 7** indirectly depend from claim 1 and are allowable at least by virtue of their dependencies.

The Rejection of Claim 12 under 35 U.S.C. 103(a)

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et al. in view of Tsunota et al. Amended **claim 12** includes aspects similar to those recited in claim 1. As such, the discussion above applies *mutatis mutandis* to claim 12.

New Claims 13-20

Newly added claims 13-20 emphasize various aspects. No new matter has been added. The art of record does not teach or suggest the aspects in these claims. Entry and allowance of claims 13-20 is respectfully requested.

Application No. 10/596,152

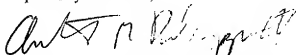
Amdt. Dated: May 6, 2008

Reply to Office Action Dated: February 13, 2008

Conclusion

In view of the foregoing, it is submitted that the claims distinguish patentably and non-obviously over the prior art of record. An early indication of allowability is earnestly solicited.

Respectfully submitted,



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